CENTER FOR SELF-ORGANIZING & INTELLIGENT SYSTEMS

CENTER

The Center for Self-Organized Intelligent Systems (CSOIS) was first funded in 1993 to build on its core intelligent systems technology to develop commercializable products to the economic advantage of the state. The center provides design services to Utah companies to develop intelligent systems solutions for new and improved commercial products. The center maintains a national and international reputation as a leading contributor to the advancement of intelligent systems research.

TECHNOLOGY

Intelligent systems technology has grown to include virtually any device and/or software concept which attempts to artificially emulate the unique cognizance and control abilities of the human mind. Artificial neural networks are designed to mimic the ability of the brain and central nervous system to learn and generalize from past experience. Fuzzy logic was introduced as a way of emulating the reasoning processes fundamental to human intelligence. Virtual presence controllers attempt to place the remote human operator or controller in a virtual environment identical to that encountered by the controlled process. Neural control emulates the sensory and communication mechanisms of the human neural system.

ACCOMPLISHMENTS

The success of the Center in developing a unique intelligent mobility technology has resulted in significant recognition for the Center as a world leader in the design and application of Unmanned Ground Vehicles (UGVs). These remotely controlled vehicles are uniquely suitable for use in agriculture, hazardous environment, and some military applications. Two years ago, the Center was awarded a major Department of Defense UGV contract with enormous economic implications for the state. Consequently CSOIS was granted an unusual sixth year of funding support by the Centers of Excellence program to enable it to take advantage of this outstanding opportunity. During the fiscal year 2000 the Center was awarded a nominal $50,000 grant to assure continued matching funds for the DOD contract. This has resulted in an additional $4 Million in defense contracts. In addition the Center received a substantial research contract with one of the nation's largest agricultural equipment manufacturer and is negotiating a three-year multi-million dollar contract with the same company. The company will be marketing automated vehicle technology based licensed centers technology. The spin-off company Visionary Products, Inc. recently moved into a new facility in Logan doubling their available floor space and adding new employees.

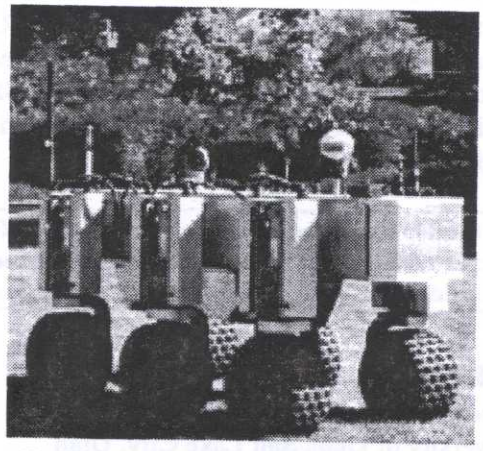
CONTACT

Director: Kevin Moore, Ph.D.
Utah State University, Logan, Utah
Phone: 435-797-3084 Fax: 435-797-2003
E-mail: snowvax@cc.usu.edu

Can You Imagine...

. . . driving a remote mechanical rover across a Martian landscape, maneuvering around obstacles, retrieving soil samples, and pointing the rover camera in all directions to view the surrounding landscape, all from your personal computer.

THE CENTER INVESTIGATES ELECTRONIC AND SOFTWARE SYSTEMS THAT EMULATE THE LEARNING AND REASONING CAPABILITIES OF THE HUMAN MIND AND APPLIES THEM TO COMMERCIAL PRODUCTS.



The T2 Omni-Directional Vehicle (ODV), a prototype of an Unmanned Ground Vehicle